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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,804	04/15/2004	Gregory Ralph Harrod	20714-0033	6656

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EXAMINER	
JARRETT, RYAN A	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/824,804	HARROD ET AL.	
	Examiner	Art Unit	
	Ryan A. Jarrett	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21 and 24-32* is/are rejected.

7)☒ Claim(s) *22,23,33 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/18/05 have been fully considered but they are not persuasive.

Applicant's argument: "While these passages in Gilkeson disclose enabling, it is only the enabling of the malfunction detection warning light, not the enabling of auxiliary heaters. As stated above, Gilkeson does not enable any heaters."

Examiner's response: Gilkeson discloses the operation of auxiliary heaters (e.g., col. 4 lines 25-44), thus Gilkeson clearly "enables" auxiliary heaters.

Applicant's argument: "Enablement of the first stage resistance heater (of Gilkeson) has nothing to do with whether the outside temperature is less than or greater than the balance point temperature."

Examiner's response: It is not clear how this argument pertains or exactly relates to the claim language at hand. Applicant claims "enabling the auxiliary heater in response to the ambient outside temperature being greater than the predetermined balance point temperature and...the indoor temperature of the interior space being less than a predetermined indoor temperature."

Gilkeson discloses activating the auxiliary heater when the indoor temperature falls about two degrees below the thermostat setpoint (e.g., col. 1 lines 44-55), thus

satisfying the second criteria above. Gilkeson also discloses that this activation can take place when the outdoor ambient temperature is above the balance point temperature, (e.g., col. 4 lines 25-44), thus satisfying the first criteria above.

Applicant's argument: "Gilkeson merely discloses a way to alert the homeowner that the resistance heater has operated at times when it was not expected to operate in order for the homeowner to investigate the cause."

Examiner's response: Gilkeson does disclose this extraneous feature, but Gilkeson also discloses the features of the rejected claims.

There are *perhaps* some differences in the disclosure of Gilkeson and in the disclosure of the Applicant's specification, regarding the rejected claims. However, these differences have not been adequately embodied in the claim language, and it is not entirely apparent to the examiner how these differences, *if any*, might be embodied into distinguishable claim language.

In response to applicant's argument that Toth is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the two references are clearly analogous art since both are related to the use of auxiliary

heaters in an HVAC operating system. There does not need to be a complete overlap between references in order to make a proper rejection based on 35 U.S.C. 103. The fact that Toth does not use outside temperature sensors is not relevant since Gilkeson already provides this teaching. And outside temperature sensors are not even relevant to the reason for combining the references. The Toth reference has merely been provided as an explicit teaching of that which is already obvious from the teachings of Gilkeson: a teaching of an auxiliary heater that is enabled in response to an HVAC heat pump (compressor) being operated for a predetermined time. Applicant argues that the addition of outside temperature sensors is directly contrary to the central teaching of Toth, and would clearly render Toth's approach unsatisfactory for its intended purpose and change its principle of operation. However, the Toth reference is not the primary reference here and it is not the reference being modified. Outside temperature sensors are not being "added" to the Toth reference, and outside temperature sensors are not being "subtracted" from the Gilkeson reference. That is not the reason for combining the references. To reiterate, the Toth reference has merely been provided as an explicit teaching of that which is already obvious from the teachings of Gilkeson: a teaching of an auxiliary heater that is enabled in response to an HVAC heat pump (compressor) being operated for a predetermined time.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation for combining Gilkeson with Toth is clear: when a heat pump has been operating for some "predetermined period of time", then that is a sign that the heat pump is not operating efficiently and a backup auxiliary heater needs to be enabled in order reduce operating costs and increase efficiency.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Claim Objections

2. Claims 5, 15, and 28 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is not clear how further claiming that a "predetermined time" is a "predetermined value" constitutes

a further limiting claim. A predetermined time is inherently a predetermined value. These claims are broadening instead of narrowing.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 6-11, 13, 16-21, 24, 26, and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilkeson et al. U.S. Patent No. 4,262,736. For example, Gilkeson et al. discloses:

1. A method of providing heat for an interior space, the method comprising the steps of: providing a HVAC system having a compressor, a condenser and an evaporator connected in a closed refrigerant loop (e.g., col. 3 lines 31-35); providing an auxiliary heater controllable independently of the HVAC system (e.g., col. 3 lines 49-56); operating the HVAC system to provide heat in response to a demand for heating in the interior space (e.g., col. 3 lines 49-56); comparing an ambient outside temperature with a predetermined balance point temperature associated with the HVAC system (col. 3 line 64 – col. 4 line 4); and enabling the auxiliary heater in response to the ambient outside temperature being greater than the predetermined balance temperature (e.g., col. 2 lines 63-68, col. 4 lines 25-44) and the satisfaction of at least one predetermined criteria related to the HVAC system (e.g., col. 1 lines 44-55).

3. The method of claim 1 wherein the at least one predetermined criteria includes an indoor temperature of the interior space being less than a predetermined indoor temperature (e.g., col. 1 lines 44-55).

6. The method of claim 1 wherein the ambient outside temperature is less than a value that can damage the interior space (e.g., col. 3 line 64 – col. 4 line 4).

7. The method of claim 6 wherein the ambient outside temperature is less than about 32°F (e.g., col. 3 line 64 – col. 4 line 4).

8. The method of claim 1 further including an additional step, of sensing the operational status of the HVAC system, wherein upon sensing the operational status of the HVAC system functioning improperly, the auxiliary heater is enabled without regard to the HVAC system being enabled for the predetermined time or the interior space being less than the predetermined indoor temperature (e.g., col. 1 lines 56 – 68, col. 4 line 57 – col. 5 line 3).

9. The method of claim 1 wherein the step of enabling the auxiliary heater includes the step of enabling the auxiliary heater in response to the ambient outside temperature being greater than the predetermined balance point temperature and less than a second predetermined temperature, and at least one of the HVAC system being operated for the predetermined time and the indoor temperature of the interior space being less than the predetermined indoor temperature (e.g., col. 2 lines 63-68, col. 4 lines 25-44).

10. The method of claim 9 wherein the second predetermined temperature is greater than a value that can damage the interior space (it is inherent that the ambient outside temperature is less that "some" temperature value that won't cause damage to the interior space; in fact, it is less than infinitely many of these theoretical values).

32. The HVAC system of claim 31 wherein the control panel includes a diagnostic module to determine if the HVAC system is functioning improperly (e.g., col. 2 lines 21-31).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 4, 5, 12, 14, 15, 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilkeson et al. as applied to claims 1, 11, and 24 above, and further in view of Toth et al. U.S. Patent No. 6,729,390. Gilkeson et al. discloses that the auxiliary heater is enabled when the indoor temperature falls below a predetermined temperature, for example, two degrees below a thermostat setpoint. This is an indication that the primary heat pump is unable to supply sufficient heat to maintain the desired indoor temperature. If the heat pump is unable to maintain a desired indoor temperature according to a thermostat setpoint, then it stands to reason that the heat pump will continue to "run" or "operate" indefinitely, or for some period of "time" that is perhaps longer than normal or longer than desired. So, referring to claims 2 and 3 as they relate to the Gilkeson disclosure, when the criteria of claim 3 is satisfied by Gilkeson, a necessary corollary to this situation is that the HVAC system of Gilkeson has been operating for some "length of time". Gilkeson et al. just does not explicitly disclose that the auxiliary heater is specifically enabled in response to the HVAC system (compressor) being operated for a "predetermined time". However, per the discussion above, this is an obvious corollary to the criteria of claim 3 being satisfied in Gilkeson. The Toth reference has been applied below to illustrate an explicit teaching of what is already obvious from the teachings of Gilkeson. That is, when a heat pump has been operating for some "predetermine period of time", then that is a sign that the heat pump is not operating efficiently and a backup auxiliary heater needs to be enabled.

Toth et al. discloses a control system for a heat pump with an auxiliary heat source in which the auxiliary heater is enabled in response to the HVAC heat pump (compressor) being operated for a predetermined time (e.g., col. 2 line 62 – col. 3 line 10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gilkeson et al. with Toth et al. since Toth et al. teaches that such a methodology results in operation that is generally more comfortable and efficient, automatically adapting to changing outside weather conditions and inside set points, which systems relying solely on sensing outside temperature cannot do (col. 2 lines 30-35). And of course, as mentioned above, Toth et al. teaches when a heat pump has been operating for some "predetermined period of time", then that is a sign that the heat pump is not operating efficiently and a backup auxiliary heater needs to be enabled in order reduce operating costs and increase efficiency.

Allowable Subject Matter

7. Claims 22, 23, 33, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett
Examiner
Art Unit 2125

RAJ
6/28/05

Albert W. Paladini 7-5-05
ALBERT W. PALADINI
PRIMARY EXAMINER